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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,450	04/19/2001	Satoshi Ishikura	60188-051	6764

7590 12/03/2003  
MCDERMOTT, WILL & EMERY  
600 13th Street, N.W.  
Washington, DC 20005-3096

EXAMINER

OWENS, DOUGLAS W

ART UNIT	PAPER NUMBER
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2811

DATE MAILED: 12/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/837,450

Applicant(s)

ISHIKURA ET AL.

Examiner

Douglas W Owens

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-13, 16 and 17 is/are allowed.
- 6) ☒ Claim(s) 1-3, 14 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☒ Interview Summary (PTO-413) Paper No(s). 15.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_. 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 3, 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent No. 5,998,843 to Yoshida.

Regarding claim 1, Yoshida teaches a semiconductor device (Fig. 10, for example), comprising:

a source/drain (19) layer for a transistor; and

a dummy diffused layer (7);

a shallow trench isolation formed between the source/drain diffused layer and the dummy diffused layer (the LOCOS isolation between the PMOS and NMOS results in a shallow portion of the substrate being consumed or removed, resulting in a shallow trench isolation.)

wherein, the source/drain layer has its surface silicided (26), and

wherein the dummy diffused layer has its surface covered with an anti-silicidation film (5), on which no gate electrode is provided.

Regarding claim 2, Yoshida teaches a semiconductor device, wherein the anti-silicidation film is an oxide film (Col. 4, lines 63 – 64).

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Regarding claim 3, Yoshida teaches a semiconductor device, wherein a dopant, which has been introduced into the source/drain layer has not been introduced into the dummy diffused layer (different dopant types).

Regarding claim 14, Yoshida teaches a semiconductor device, wherein the dummy diffused layer is located between an analog circuit block and a digital circuit block.

Regarding claim 15, Yoshida teaches a semiconductor device, wherein, the dummy diffused layer is not electrically coupled to another component via an interconnect.

***Allowable Subject Matter***

3. Claims 5 – 13, 16 and 17 are allowed.

***Response to Arguments***

4. Applicant's arguments filed September 11, 2003 have been fully considered but they are not persuasive. The Applicant asserts that Yoshida does not teach a device including shallow trench isolation between the source/drain diffused layer and the dummy diffused layer. Yoshida teaches LOCOS isolation (see Fig. 10) between the NMOS and PMOS transistors. The LOCOS isolation taught by Yoshida lies between the source/drain region and the dummy diffused region. While Yoshida is silent with respect to how the LOCOS isolation is formed, one having ordinary skill in the art would be aware that LOCOS isolation involves forming a shallow trench in the substrate and then growing thermal oxide to fill the trench. Another method of forming the LOCOS oxide, would involve forming a mask on a flat substrate and performing a thermal

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treatment to grow the oxide, which would also result in a shallow trench being formed since the underlying silicon is consumed. It is further evidenced in Fig. 10 of Yoshida that the LOCOS resides in a shallow trench in the substrate. See pages 17 – 44 of Wolf, Silicon Processing for the VLSI Era, Volume 2 – Process Integration, for a more detailed discussion of LOCOS technology.

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

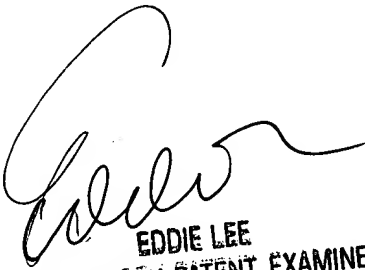
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas W Owens whose telephone number is 703-308-6167. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C Lee can be reached on 703-308-1690. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

DWO



EDDIE LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800